REMARKS

The drawings (Figures 2 and 3) were objected to under 37 CFR 1.83(a) because they fail to show "illustrates outlining around a tinted line art object on a fill object." Attached herewith is a replacement sheet for Figures 2 and 3.

Claims 1-12 are pending.

Claims 1-12 were rejected under 35 USC §103(a) as being unpatentable over Hoel et al (US Patent No. 4,942,541) in view of Nakagome et al (US Patent No. 4,111,815) and Ushida et al (US Patent No. 5,644,366). Applicant respectfully disagrees.

Independent Claim 1 claims a method of improving edge rendering of objects containing run length encoded image pixel data, comprising: collecting an upper run-length encoded scanline and a lower run-length encoded scanline, wherein each scanline includes a string of first runs of pixels corresponding to a first object, a string of second runs corresponding to a second object and each run is specified by a minimum position in a horizontal direction, a length in pixels and a color; wherein the first object has associated with it a first tag plane for defining rendering hints for rendering the first object; wherein the second object has associated with it a second tag plane for defining rendering hints for rendering the second object; inspecting each run transition, wherein a run transition comprises a point where one object run ends and another object run begins on the scanline, and identifying an interesting run located at the run transition, wherein an interesting run has at least one of a specified tag and specified contone value; for each run transition involving an interesting run, inspecting pixels located in each of the upper and lower scanlines and right and left of the run transition and, based on the position of the inspected pixels relative to one another, determining if the tag values associated with the surrounding runs should be modified, and specifying a number of pixels to vary the corresponding tag planes; and if the tag plane of one of the objects corresponding to the intersecting runs is to be dilated in the horizontal direction, a new run is inserted at the run transition having the specified number of pixels in length and the tag value of the object to be dilated; and the tag plane of the other object is decreased by removing the specified number of pixels in length from the run adjacent to the interesting run.

None of Hoel, Nakagome, or Ushida is concerned with the problems associated

with improving edge rendering of objects. None of Hoel, Nakagome or Ushida is concerned with tags or rendering hints. The term "tag" or "hint" refers to complimentary data to be used in conjunction with the digital contone data to optimally render each pixel of a digital image. Each pixel of the contone plane is assumed to have a corresponding pixel in the tag plane. None of Hoel, Nakagome, or Ushida contemplates the use of a tag plane for defining rendering hints. None of Hoel, Nakagome, or Ushida contemplates the use of rendering hints to improve rendering of objects. None of Hoel, Nakagome, or Ushida is concerned with the problems of improving edge rendering between text objects and fill backgrounds.

None of Hoel, Nakagome, or Ushida teaches or suggests "wherein the first object has associated with it a first tag plane for defining rendering hints for rendering the first object".

None of Hoel, Nakoagome, or Ushida teaches or suggests "wherein the second object has associated with it a second tag plane for defining rendering hints for rendering the second object".

None of Hoel, Nakoagome, or Ushida teaches or suggests "inspecting each run transition, wherein a run transition comprises a point where one object run ends and another object run begins on the scanline, and identifying an interesting run located at the run transition, wherein an interesting run has at least one of a specified tag and specified contone value".

None of Hoel, Nakoagome, or Ushida teaches or suggests "for each run transition involving an interesting run, inspecting pixels located in each of the upper and lower scanlines and right and left of the run transition and, based on the position of the inspected pixels relative to one another, determining if the tag values associated with the surrounding runs should be modified, and specifying a number of pixels to vary the corresponding tag planes".

None of Hoel, Nakoagome, or Ushida teaches or suggests "if the tag plane of one of the objects corresponding to the intersecting runs is to be dilated in the horizontal direction, a new run is inserted at the run transition having the specified number of pixels in length and the tag value of the object to be dilated; and the tag plane of the other object

is decreased by removing the specified number of pixels in length from the run adjacent to the interesting run".

Hoel is concerned with the problem of matching image processor speed with the output printing speed of a printer. Hoel discloses a page printing system which uses virtual (logical) memory for mapping images. Physical memory which is used for creating a page image bitmap for synthetic graphics is to be allocated as patches. A patch in general corresponds to a rectangular area of a page when the page exists in bitmap form. Each patch is represented by a set of non-contiguous segments of logical memory which, when mapped to physical memory, are contiguous. See Hoel Abstract.

Nakagome teaches a facsimile signal coding method. Nakagome is concerned with the problem of reducing transmission time for white runs. Nakagome uses information about the point at which there is a change from black to white or from white to black in a scanline to reduce transmission time.

Ushida is concerned with the problem when size of the image to be output is different from the size of the media in which the image is to be printed (such as when an 8 x 10 image is printed on a 7 x 9 area or on a 9 by 11 area). Ushida is concerned with correctly enlarging (from 8 x 10 to 9 x 11) or reducing the image (from 8 x 10 to 7 x 9) especially along the contour region where a halftone region borders a character/line region.

Applicant's method is not concerned with expanding or enlarging the image to be printed. Applicant is concerned with the problem of accurately rendering objects especially at the edges between fill and text and between text and fill. Problems sometimes occur at the edge between fill and text, which problems are caused by applying a rendering hint. Rendering hints are associated with each pixel. The plane of rendering hints, one rendering hint for each pixel is adjusted according to Applicant's method so that the rendering hint plane can be expanded or reduced in the neighborhood of the particular pixel: "if the tag plane of one of the objects corresponding to the intersecting runs is to be dilated in the horizontal direction, a new run is inserted at the run transition having the specified number of pixels in length and the tag value of the object to be dilated; and the tag plane of the other object is decreased by removing the

specified number of pixels in length from the run adjacent to the interesting run".

Claims 1-12 are believed to be allowable over the cited references. Consideration of this application and allowance thereof are earnestly solicited.

No additional fee is believed to be required for this amendment; however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

In the event the Examiner considers a personal contact advantageous to the disposition of this case, the Examiner is requested to call the undersigned Attorney for Applicant, Jeannette Walder.

Respectfully submitted,

/Jeannette M. Walder, Reg. #30,698/
Jeannette M. Walder
Attorney for Applicant
Registration No. 30,698
Telephone: 714 565-1700

Xerox Corporation
Santa Ana, California
Date: June 25, 2007